

## Rural Utilities Service, USDA

## § 1755.704

listing requirements specified in § 1755.702(g)(5).

(j) *Ripcord (optional)*. (1) A ripcord may be used in the NMR aerial service wire structure at the option of the manufacturer unless specified by the end user.

(2) When a ripcord is used it shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraphs 4.2 through 4.2.3.

(k) *Identification marker*. Each length of NMR aerial service wire shall be identified in accordance with ANSI/ICEA S-89-648-1993, paragraphs 9.1 through 9.1.4. When surface marking is employed, the color of the initial marking shall be either white or silver.

(l) *Length marking (optional)*. (1) Sequentially numbered length marking of the completed NMR aerial service wire may be used at the option of the manufacturer unless specified by the end user.

(2) When sequentially numbered length markings are used, the length markings shall be in accordance with in accordance with § 1755.702(i)(2).

(m) *Durability of marking*. The durability of the marking of the NMR aerial service wire shall comply with the requirements specified in § 1755.702(j).

[61 FR 26076, May 24, 1996, as amended at 69 FR 18803, Apr. 9, 2004]

### § 1755.704 Requirements applicable to both CCSR and NMR aerial service wires.

(a) *Acceptance testing*. (1) The tests described in §§ 1755.700 through 1755.704 are intended for acceptance of wire designs and major modifications of accepted designs. What constitutes a major modification is at the discretion of RUS. These tests are intended to show the inherent capability of the manufacturer to produce wire products having long life and stability.

(2) For initial acceptance, the manufacturer shall:

(i) Certify that the product fully complies with each paragraph in §§ 1755.700 through 1755.704;

(ii) Agree to periodic plant inspections by RUS;

(iii) Certify whether the product complies with the domestic origin manufacturing provisions of the "Buy American" requirements of the Rural

Electrification Act of 1938 (7 U.S.C. 903 note), as amended (the "REA Buy-American provision");

(iv) Submit at least three written user testimonials concerning field performance of the product; and

(v) Provide any other nonproprietary data deemed necessary by the Chief, Outside Plant Branch (Telecommunications).

(3) In order for RUS to consider a manufacturer's request that a product be requalified, the manufacturer shall certify not later than June 30 of the year in which requalification is required, that the product:

(i) Fully complies with each paragraph in §§ 1755.700 through 1755.704; and

(ii) Does or does not comply with the domestic origin manufacturing provisions of the REA Buy American provisions. The required certifications shall be dated within 90 days of the submission.

(4) Initial and requalification acceptance requests should be addresses to: Chairman, Technical Standards Committee "A" (Telecommunications), Telecommunications Standards Division, Rural Utilities Service, AG Box 1598, Washington, DC 20250-1598.

(b) *Extent of testing*—(1) *Tests on 100 percent of completed wire*. (i) Each conductor in the completed CCSR and NMR aerial service wire shall be tested for continuity in accordance with ANSI/ICEA S-89-648-1993, paragraphs 7.1.1 and 7.2.1, respectively. The ANSI/ICEA S-89-648-1993 Standard For Telecommunications Aerial Service Wire, Technical Requirements (approved by ANSI July 11, 1994) is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of ANSI/ICEA S-89-648-1993 are available for inspection during normal business hours at RUS, room 2845, U.S. Department of Agriculture, Washington, DC 20250-1500, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). Copies are available from ICEA, P. O. Box 440, South Yarmouth, MA 02664, telephone number (508) 394-4424.

(ii) Each conductor in the completed CCSR and NMR aerial service wire shall be tested for shorts in accordance with ANSI/ICEA S-89-648-1993, paragraphs 7.1.1 and 7.2.1, respectively.

(iii) Each length of completed CCSR and NMR aerial service wire shall be tested for insulation imperfections in accordance with § 1755.702(e)(7) and § 1755.703(b)(5), respectively.

(2) *Capability tests.* Tests on a quality assurance basis shall be made as frequently as is required for each manufacturer to determine and maintain compliance with:

- (i) Performance of the conductors;
- (ii) Performance of the conductor insulation and jacket material;
- (iii) Sequential marking and lettering;
- (iv) Mutual capacitance, capacitance unbalance, attenuation, and crosstalk;
- (v) Conductor resistance, resistance unbalance, and insulation resistance;
- (vi) Dielectric strength and fusing coordination;
- (vii) Impact, abrasion, static load, elongation, and plasticizer compatibility tests; and
- (viii) Cold temperature handling, light absorption, low temperature separation, and flammability tests.

(c) *Summary of records of electrical and physical tests.* (1) Each manufacturer shall maintain suitable summary records for a period of at least 3 years of all electrical and physical tests required on completed wire as set forth in paragraph (b) of this section. The test data for a particular lot of aerial service wire shall be in a form such that it may be readily available to the purchaser or to RUS upon request.

(2) Measurements and computed values shall be rounded off to the number of places or figures specified for the requirement according to ANSI/ICEA S-89-648-1993, paragraph 1.3.

(d) *Manufacturing irregularities.* (1) Repairs to the insulation of CCSR aerial service wires are not permitted in wires supplied to end users under §§ 1755.700 through 1755.704.

(2) Repairs to the jacket of NMR aerial service wires are not permitted in wires supplied to end users under §§ 1755.700 through 1755.704.

(e) *Splicing.* Splicing of completed CCSR and NMR aerial service wires

shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 8.1.1.

(f) *Preparation for shipment.* (1) CCSR and NMR aerial service wire shall be shipped either in coils or on reels.

(2) When CCSR and NMR aerial service wires are shipped on reels the following provisions shall apply:

(i) The diameter of the drum shall be large enough to prevent damage to the wire from reeling or unreeling. The reels shall be substantial and so constructed as to prevent damage to the wire during shipment and handling;

(ii) A waterproof corrugated board or other suitable means of protection accepted by RUS prior to its use may be applied to the reel. If the waterproof corrugated board or other suitable material is used for protection, it shall be suitably secured in place to prevent damage to the wire during storage and handling. The use of the waterproof corrugated board or other suitable means of protection shall be at the option of the manufacturer unless specified by the end user;

(iii) The outer end of the wire shall be securely fastened to the reel head so as to prevent the wire from becoming loose in transit. The inner end of the wire shall be securely fastened in such a way as to make it readily available if required for electrical testing. Spikes, staples, or other fastening devices which penetrate the conductor insulation of the CCSR aerial service wire and the jacket of the NMR aerial service wire shall not be used. The method of fastening the wire ends shall be accepted by RUS prior to their use;

(iv) Each length of wire shall be wound on a separate reel;

(v) Each reel shall be plainly marked to indicate the direction in which it should be rolled to prevent loosening of the wire on the reel; and

(vi) Each reel shall be stenciled or labeled on either one or both sides with the following information:

- (A) Customer order number;
- (B) Manufacturer's name and product code;
- (C) Factory reel number and year of manufacture;
- (D) Gauge of conductors and pair size of wire;
- (E) Length of wire; and

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(F) RUS designation letter “K.”

(3) When CCSR and NMR aerial service wires are shipped in coils the following provisions shall apply:

(i) The diameter of the coil shall be large enough to prevent damage to the wire from coiling or uncoiling;

(ii) The nominal length of the wire in a coil shall be 305 meters (1,000 feet). No coil shall be less than 290 meters (950 feet) long or more than 460 meters (1,500 feet) long; however, 25 percent of the total number of coils may be less than 305 meters (1,000 feet);

(iii) The coils of wire shall be wound securely with strong tape in four separate evenly spaced places;

(iv) The coils may be protected from damage by wrapping the coil with heavy paper, burlap, or other suitable material accepted by RUS prior to its use. The use of the heavy paper, burlap, or other suitable means of protection shall be at the option of the manufacturer unless specified by the end user; and

(v) Each coil shall be tagged with the following information:

(A) Customer order number;

(B) Manufacturer’s name and product code;

(C) Year of manufacture;

(D) Gauge of conductors and pair size of wire;

(E) Length of wire; and

(F) RUS designation letter “K.”

(4) In lieu of wrapping the coil with heavy paper, burlap, or other suitable material, the coil may be packaged in a moisture resistant carton.

(5) When the coils are shipped in moisture resistant cartons, each carton shall be marked with the information specified in paragraphs (f)(3)(v)(A) through (f)(3)(v)(F) of this section.

(6) Other methods of shipment may be used if accepted by RUS prior to their use.

(7) When NMR aerial service wire is shipped, the ends of the wire shall be sealed in accordance with ANSI/CEA S-89-648-1993, paragraph 9.2.

[61 FR 26077, May 24, 1996, as amended at 69 FR 18803, Apr. 9, 2004]

**§§ 1755.705–1755.859 [Reserved]**

**§ 1755.860 RUS specification for filled buried wires.**

(a) *Scope.* (1) This section covers the requirements for filled buried wires intended for direct burial as a subscriber drop and/or distribution wire.

(i) The conductors are solid copper, individually insulated with an extruded solid insulating compound.

(ii) The insulated conductors are twisted into pairs (a star-quad configuration is permitted for the two pair wires) which are then stranded or oscillated to form a cylindrical core.

(iii) A moisture resistant filling compound is applied to the stranded conductors completely covering the insulated conductors and filling the interstices between the pairs.

(iv) The wire structure is completed by the application of an optional core wrapping material, an inner jacket, a flooding compound, a shield, a flooding compound, and an overall plastic jacket.

(2) The number of pairs and gauge size of conductors which are used within the RUS program are provided in the following table:

American Wire Gauge (AWG)	22 .....	24
Pairs	2 .....	2
	3 .....	3

(3) All wires sold to RUS borrowers for projects involving RUS loan funds under this section must be accepted by RUS Technical Standards Committee “A” (Telephone). For wires manufactured to the specification of this section, all design changes to an accepted design must be submitted for acceptance. RUS will be the sole authority on what constitutes a design change.

(4) Materials, manufacturing techniques, or wire designs not specifically addressed by this section may be allowed if accepted by RUS. Justification for acceptance of modified materials, manufacturing techniques, or wire designs must be provided to substantiate product utility and long term stability and endurance.

(5) The American National Standards Institute/Electronic Industries Association (ANSI/EIA) 359-A-84, EIA Standard